

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for August, 1895, is based on reports from 2,737 stations occupied by regular and voluntary observers, classified as follows: 149 from Weather Bureau stations; 35 from U. S. Army post surgeons; 2,393 from State Weather Service and voluntary observers; 34 from Canadian stations; 96 received through the Southern Pacific Railway Company; and 30 from U. S. Life-Saving stations; international simultaneous observations are received from a few stations and used together with trustworthy newspaper extracts and special reports.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, chief of that division.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

Low pressures and high temperatures prevailed from the central Rocky Mountain Plateau to the Atlantic Coast. An excess of precipitation fell in the eastern Gulf and South Atlantic States, and over parts of Missouri, Iowa, Kansas, and Nebraska; elsewhere a deficiency was reported. The accumulated precipitation since the beginning of the year shows a deficiency of 25 to 30 per cent in the Ohio Valley and Tennessee, upper and lower Lake regions, upper Mississippi Valley, and the northern Plateau Region. The accumulated temperatures show a great deficiency in the middle and south Atlantic, east Gulf and west Gulf States and Florida, the Ohio Valley and Tennessee, and southern Rocky Mountain Slope, and smaller deficiencies in most other regions. The principal storm was the hurricane that moved toward the west-northwest in a nearly straight line from near Dominica on the 20th, to the southern coast of Texas on the 29th, where it broke up on the 30th. The stage of water was unusually low in the Ohio River and its tributaries.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure, reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The mean pressures during the current month were highest on the coasts of Washington and of the South Atlantic States. The highest was 30.10, at Fort Canby. The lowest mean pressures were in the Rocky Mountain Plateau Region. The lowest was 29.76, at Yuma.

As compared with the normal for August the mean pressure was decidedly in excess in Washington and South Carolina; the greatest excesses were: Fort Canby, Denver, and Edmonston, 0.06. Pressure was generally deficient over the rest of

the country; the greatest deficits were Marquette, 0.11, and Quebec, 0.10.

As compared with the preceding month of July the pressures reduced to sea level show a very general fall. The only rises were: Prince Albert, 0.06; El Paso and Santa Fe, 0.01; Independence, 0.03. The maximum falls were: Port Arthur, 0.10; Marquette, Green Bay, and Duluth, 0.08.

AREAS OF HIGH AND LOW PRESSURE.

[By Prof. FRANK H. BIGELOW.]

An inspection of the charts of high and low area tracks for the month of August shows that the usual feeble convective circulation of the atmosphere prevailed. This is due to the fact that in summer high temperatures extend generally over the entire Northern Hemisphere instead of being so distributed as to show the great differences that are found in winter between the arctic and the tropical zones. The great thermic fall of the winter season produces impulsive discharges from the arctic to the mid-latitude zones, whenever it exists, but in summer there is only a slight temperature gradient, and in consequence only a feeble general circulation from north to south. The observed distribution of the highs and lows may be attributed almost exclusively to the influence of the ocean areas and the northern Rocky Mountain Plateau upon the adjacent masses of air. Thus, on the north Pacific Coast an accumulation of high areas was found, and likewise on the south Atlantic Coast, another concentration of similar conditions was maintained. A number of straggling highs moved from the Plateau to the central valleys, and a few high pressure areas generating in the central valleys moved to the Atlantic coast line, but only one or two instances occurred of a high passing from the Pacific to the Atlantic Coast. This is most readily understood by supposing that the cooler water areas, and the elevated mountain masses, are favorable in summer to holding denser masses of air above them, since the eastward drift is so feeble as to be unable to counteract such a tendency.

Except for one hurricane and one Gulf storm of slight intensity, the tracks of low areas were confined to the northern